



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,324	12/18/2001	Koji Hataya	IIDAP23.001AUS	8155

20995 7590 10/06/2003

KNOBBE MARTENS OLSON & BEAR LLP  
2040 MAIN STREET  
FOURTEENTH FLOOR  
IRVINE, CA 92614

EXAMINER

CHANEY, CAROL DIANE

ART UNIT PAPER NUMBER

1745

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N

10/025,324

Applicant(s)

HATAYA, KOJI

Examiner

Carol Chaney

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \*   c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.                      6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-13 and 16-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3, and its depending claims, are indefinite because the ratio(s) or object(s) to be increased are clearly recited, and how they should be increased is ambiguous since "in view of a relationship between..." encompasses an infinite number of functions and values.

In claims 5 and 10, the term "reaction points" is not a term of art, but is interpreted as "reaction sites".

Regarding claims 9 and 17, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1745

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 3, 9, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Maruyama et al., US Patent 6,420,072.

Maruyama et al. disclose polymer gel electrolytes including a cross-linked polymeric component and a nonaqueous solvent. In an exemplary embodiment, acrylonitrile, a low-molecular weight dimethacrylate crosslinking agent, and are dissolved in a mixture of ethylene carbonate/diethyl carbonate, and the solution is crosslinked to form a polymer electrolyte. See column 14, lines 39-65.

Claims 1, 2, 14, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Minakata et al. US Patent 6,284,412.

Minakata et al. disclose a polymeric electrolyte formed of a closed-cell polymer foam impregnated with a liquid non-aqueous electrolyte solution. In a preferred embodiment, a hexafluoropropylene/vinylidene fluoride copolymer is crosslinked and

Art Unit: 1745

impregnated with a non-aqueous electrolyte to form a swollen foamed sheet. The sheet includes liquid-phase domains which are from 5 to 15 microns in diameter. (Column 26, line 56-column 27, line 37.) Batteries using the polymer electrolyte sheets are also described by Minakata et al. (See column 33 lines 53-65.)

Claims 1, 3, 5-7, 9-12, 14, and 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Amano et al., US Patent 6,235,433.

Amano et al. disclose secondary batteries which include a gel electrolyte comprising a matrix polymer and an electrolyte solution in the matrix polymer. The polymer gel electrolyte is a cross-linked high molecular network formed by mixing

A) a low-molecular weight compound containing at least two polymerizable functional groups

B) a second low-molecular weight compound having a polymerizable functional group and a carbonyl, amido or oxyalkylene group, and

(C) a vinylidene fluoride polymer

with a solution of an electrolyte salt dissolved in a nonaqueous organic solvent, and crosslinking the solution. In a preferred embodiment, the low molecular weight compound containing at least two polymerizable functional groups is trimethylolpropane trimethacrylate and the organic solvent is a propylene carbonate/ethylene carbonate mixture. (See column 11, Example 1.)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 13, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amano et al. As discussed above, Amano et al. disclose applicants' invention essentially as claimed, with the exception that Amano et al. do not specifically recite ethylene dimethacrylate as the low molecular weight compound functioning as a crosslinking agent. However, Amano et al. indicate the compound with two polymerizable functional groups used in their invention "is not particularly restricted" and examples of diacrylates and dimethacrylates are provided. (See column 4, lines 53-63 and example 1). Thus, applicants' invention as a whole would have been obvious to one of ordinary skill in the art because one of ordinary skill in the art would recognize ethylene dimethacrylate as an example of a type of compound with two polymerizable functional groups disclosed by Amano et al.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol Chaney whose telephone number is (703) 305-3777. The examiner can normally be reached on Mon - Fri 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 703-308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Carol Chaney  
Primary Examiner  
Art Unit 1745

CC